

REMARKS

The Office Action of September 20, 2004 has been received and considered. The Applicants appreciate the opportunity for their representatives to meet with the examiner and discuss the outstanding Office Action, the prior art and a proposed amendment. Applicants further appreciate the examiner's noted agreement with the amendment and arguments made during the interview. The amendment discussed during the interview is now made in the application. Reconsideration of the application as amended is requested.

Claim 6 has been amended to provide antecedent basis of the recitation of "the sleeve." Withdrawal of the objection to this claim is requested.

Claim 1 has been rejected on the basis of (i) US Patent No. 2,940,784 to Fell alone, (ii) US Patent No. 4,108,407 to Cable et al. in view of US Patent No. 5,855,460 to Brehmer et al., and (iii) EP 1,215,404 to Pinzl (corresponding to US Patent No. 6,702,503) in view of Brehmer. As discussed during the interview, Applicants submit that the amended claim 1 is not anticipated by Fell or rendered obvious by a combination of Cable or Pinzl in view of Brehmer. Reconsideration of the application as amended is requested.

As discussed, the present invention pertains to a device which enables the user to determine when the securing device has been fully threaded into position. For instance, as illustrated in Figures 1-4 of the present application, the securing device is

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to be threaded into a panel 2 until it contacts structural component 11. However, the advancement of the securing device toward the structural component cannot be seen by the user. Hence, the user is forced to determine when to stop the advancement by estimating the length of the advancement relative to the expected gap between panel 2 and component 11, or by feeling when the tightening becomes more difficult due to contact of the securing device against component 11. However, neither process is satisfactory. As can be appreciated, it is difficult to estimate the length of the advancement and the size of the gap can be somewhat uncertain. Moreover, the tightening of the screw against component 11 can sometimes not be felt by the user until the securing device has exceeded its proper advancement and is applying excessive force against the component.

To overcome the difficulties of the past, the present invention includes a detector to indicate to the user when advancement of the securing device should be halted. More particularly, the securing device includes a threaded tubular member 1 and a slideable detector 4 positioned within the tubular member. The detector initially extends outward beyond the advancing end of the tubular member. As a result, the detector will slide rearward when it contacts the structural component in advance of the tubular member 1 contacting the component. The user then continues to advance tubular member 1 until the proximate end of the detector is aligned with a surface on the tubular member that functions as a reference point. In the illustrated example, the tubular

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device is advanced until the proximate end of the detector is aligned with the proximate end surface of the tubular member. In this way, the user can be assured of advancing the securing device the proper distance without being concerned with the problems of under-advancing or over-advancing the device.

Fell discloses a precision threaded adjustment device 8 comprising threaded shanks 9, 16 and a clamping screw 18. Shanks 9, 16 are provided with different threads to enable a high-precision adjustment in leveling frame 5 supported on base 6. As a result, Fell has nothing to do with the objective of the present invention. Fell does not disclose a distance detector that is slideably displaced relative to the tubular piece when the tubular piece is screwed to contact the structural component.

Cable pertains to a support for an assembly 12 to be used in a spacecraft. The assembly must be aligned with respect to a particular axis of the spacecraft. The alignment is accomplished through an insert 16 fixed into a base panel 20. The insert includes a threaded adjustment member 28 that can be axially moved as needed for the alignment. As with Fell, the purpose of Cable is not the same as in the present invention. During use, the assembly 12 is always in contact with end of the threaded member 28 via washer 42. The assembly is set on the supporting panel, i.e., on the washer 42. The threaded member 28 is then adjusted as necessary until the proper alignment is achieved. As a result, threaded member 28 does not advance toward the assembly 12 until it makes contact with the assembly. As to be expected, Cable does

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not include a detector to indicate when the threaded member has been sufficiently advanced to contact the assembly 12.

Pinzl, like Fell and Cable, is an adjustment assembly. The tubular member 7 is screwed through sleeve 1, fixed to a component 4, until it extends from each side. The end of the tubular member is then fixed into an abutting relationship with panel 13 by screw assembly 11, 12, 14. The tubular member can then be turned to adjust the position of sleeve 1, which in turn adjusts the position of component 4 relative to panel 13. Pinzl does not include a detector to determine when the advancement of a tubular member in a securing device should be halted because contact with the component had been achieved. In this case, the tubular member is continually in contact with the panel so as to adjust the component's position.

The examiner relies upon Brehmer to teach the addition of a detector in the devices of Cable and Pinzl. Brehmer discloses a screw 4 and a nut 5. The nut includes an extension 7 that is fixed to an elongated cap 6 as an indication of the status of the screw to the nut. There is no reason, however, one skilled in the art would find any suggestion in Brehmer to modify Cable or Pinzl to include a detector as claimed. Brehmer does not suggest that the tubular members in Cable and Pinzl be advanced toward the assembly 12 (in Cable) or toward panel 13 (in Pinzl) or that they should include a detector to determine when contact between the tubular element and the assembly has occurred so that the advancement could be stopped. As discussed

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above, there is no reason such a feature would be needed or desired in Cable or Pinzl. Moreover, Brehmer does not even itself suggest including a detector to determine when the tubular element has been advanced to contact a component. It instead passes through both panels 2, 3 and threads into the nut of the adjustment assembly.

For all of the above-discussed reasons, Applicants submit that claims 1-6 should be allowed. A notice to that is earnestly solicited.

Respectfully submitted,

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